Mobil Oil Corporation

612 SOUTH FLOWER STREET
P.O. BOX 2122
LOS ANGELES, CALIFORNIA 90051

10/9/86 THANKS Jack

October 6, 1986

Mr. Dale C. Bowyer
California Regional Water
Quality Control Board
1111 Jackson St., Room 6040
Oakland, California 94607

RE: MOBIL OIL CORPORATION
SERVICE STATION 10-LNO
3315 HIGH STREET
OAKLAND, CALIFORNIA

Dear Mr. Bowyer:

As discussed in my letter of May 9, 1986, enclosed is our consultant's report. This report includes the site assessment that was completed and the laboratory results from water samples collected. The water results showed no contamination in all three (3) monitoring wells.

Based on our consultant's report and previous work completed, Mobil believes no further work is required at this location. Unless notified by the Water Quality Control Board, Mobil will consider this incident closed.

If you have any questions, please call C. E. Galloway of my office at (213) 683-5520.

Sincerely,

R. J. Edwards
Region Environmental Manager

CEG:ram
Enclosure
(73690)

c.c.: Mr. T. M. Gerow
Alameda County
Div. of Environmental Health
470 - 27th St., Room 324
Oakland, California 94612

KAPREALIAN ENGINEERING, INC.
Consulting Engineers
535 Main Street
Martinez, Ca. 94553
(415) 372-5444

KEI-J86-042
September 6, 1986

Mobil Oil Corporation
P.O. Box 127
Richmond, CA 94807
Attn: Mr. Bill Johnson

RE: Soil/Groundwater Monitoring System at
Mobil S/S #10-LNO Located at 3315 High Street
Oakland, California

Dear Mr. Johnson:

This report presents our investigation for monitoring groundwater in accordance with our proposal dated May 6, 1986 for the referenced site. The purpose of the investigation was to assess the extent of subsurface gasoline contamination and to comply with state and local agencies requirements. The work performed consisted of the following:

1. Coordination with the Regulatory Agencies for the installation of three (3) monitoring wells.
2. Drilling and installation of the three (3) monitoring wells.
3. Soil sampling.
4. Groundwater purging/sampling.
5. Laboratory analyses.
6. Data analysis, interpretation and report preparation.

FIELD INVESTIGATION PROCEDURES

On July 29 and 30, 1986, three (3) two-inch monitoring wells (designated as MW-1, MW-2 and MW-3 on attached sketch) were installed at the site. The wells were drilled, constructed and completed in accordance with the guidelines of the California Regional Water Quality Control Board.

The subsurface materials penetrated and details of the construction of the wells are described in the attached Exploratory Boring Logs.

MW-1 was drilled and completed to a total of 35.0 feet. Free groundwater was encountered at a depth of 24.0 feet and rose to 9.5 feet following well completion.

MW-2 was drilled and completed to a total depth of 30.0 feet. Groundwater was encountered at a depth of 18.0 feet and rose to 9.0 feet following completion of the well.

MW-3 was drilled and completed to a depth of 30.0 feet with ground water being found at 20.0 feet. Following well completion the static water level rose to 9.0 feet.

During the drilling, soil samples were collected at depth of 15.0 feet from each well using brass tubes. These soil samples were then sent to Sequoia Analytical Laboratory in Redwood City, CA. No evidence of petroleum product odor was found during the installation of the wells.

The wells were installed with locking caps and padlocks. On August 14, 1986 the wells were developed and water samples taken on August 18, 1986. The wells were checked for: depth to water table, presence of odor, and floating product. No sheen, free product or odor were noted in the well during our investigation. Prior to sampling, the well was purged at least four well-volumes from a surface bailer. Samples were then collected using a Teflon bailer, decanted into clean glass (VOA) vials with teflon septa screw caps, labeled and stored on ice until delivered to the laboratory.

The results of the analysis and monitoring of the well are listed in Table 1.

HYDROGEOLOGY

Groundwater is present at the site at a depth of 10.0 feet below the surface. The subsurface formations below the site consist of silty clay with gravelly clay at depths of 12.0 to 31.0 feet. Clayey sand was found beyond 31 feet. Groundwater in Oakland is generally within 10 feet below the ground surface and is of poor quality. According to the Alameda County Health Department, there are very few usable wells that are known to exist within the City of Oakland, and no known wells are located within one-half (1/2) mile of the area. The majority of known wells within the City of Oakland have been installed for subsurface contamination or underground tank monitoring.

CONCLUSIONS and RECOMMENDATIONS

The analytical results show concentrations of dissolved hydrocarbons to be below the detection limit. Sufficient soil has been removed from the site to significantly reduce adverse environmental impact on the groundwater. Since no impact on the groundwater was noted, we recommend no further monitoring at this time.

This report, consisting of professional opinions and recommendations, has been prepared in accordance with generally accepted professional principles and practices existing for such work. This acknowledgement is in lieu of all warranties either express or implied. It should be noted that environmental changes, either naturally-occuring or artifically-induced, may cause changes in groundwater levels and flow paths and, hence, the extent and concentration of any contaminants may change with time.

Should you have any questions regarding this report, please do not hesitate to call.

Sincerely,

Kaprealian Engineering, Inc.

Mardo Kaprealian

MK/pa
Attachment: Analytical Results Table 1
Sketch of the Site
Log Borings
Lab Results -
Permit Application

cc: Mr. C. Galloway

TABLE - 1

Results of Groundwater Analysis

Parameter	MW #1	MW #2	MW #3
Petroleum Total Hydrocarbons (ppm)	<0.05	<0.05	<0.05
Benzene (ppm)	<0.001	<0.001	<0.001
Toluene (ppm)	<0.001	<0.001	<0.001
Xylene (ppm)	<0.001	<0.001	<0.001
Depth (feet)	10.1	10.0	9.6
Free Product (inches)	0.0	0.0	0.0
Odor	ND	ND	ND
Sheen	ND	ND	ND

Results of Soil Analysis

Petroleum Total Hydrocarbons (ppm)	<1.0	<1.0	<1.0
Odor	ND	ND	ND

ND = None Detected

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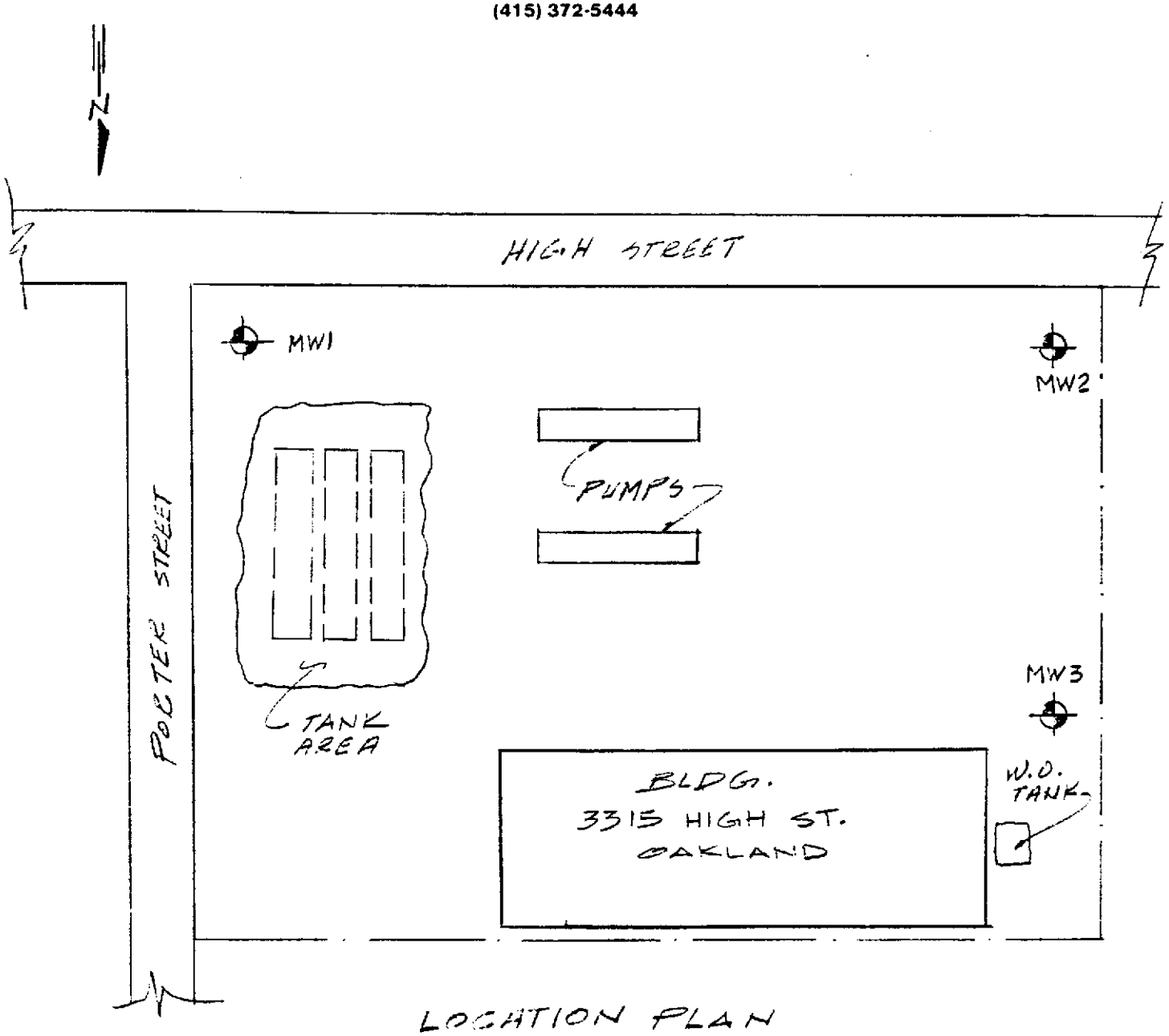

LOCATION PLAN
N.T.S.

MW (MONITOEING WELL)

DRILL RIG	Hollow Stem	SURFACE ELEVATION	-----	LOGGED BY	JCW
DEPTH TO GROUNDWATER	As noted	BORING DIAMETER	8"	DATE DRILLED	7/29/86

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
ASPHALT, BASE ROCK AND FILL									
SILTY CLAY with rock fragments; dry	tan	stiff	CL						
Cobbles; damp				5					
Grading to clayey gravel; damp	tan to brown		CL GC	10			▽		
GRAVELLY CLAY, with some fine sand; damp to moist No product odor	tan to light brown	stiff	CL	15					
Increasing clay at 17 feet, moist; no product odor				20					

EXPLORATORY BORING LOG

MOBIL OIL CORPORATION
HIGH STREET, OAKLAND

PROJECT NO.	DATE	BORING NO.
H182-21	8/86	MW-1

DRILL RIG	Hollow Stem	SURFACE ELEVATION	----	LOGGED BY	JCW
DEPTH TO GROUNDWATER	As Noted	BORING DIAMETER	8"	DATE DRILLED	7/29/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
GRAVELLY CLAY (CONTD)	light brown	stiff to very stiff	CL				▽		
CLAYEY GRAVEL; wet, no product odor	light brown	dense	GC	25					
CLAYEY SAND; grading to sandy clay	light brown	medium dense	SC	30					
TOTAL DEPTH = 35.0 feet				35					

EXPLORATORY BORING LOG

MOBIL OIL CORPORATION
HIGH STREET, OAKLAND

PROJECT NO.	DATE	BORING NO.
H182-21	8/86	MW-1

MOBIL OIL CORPORATION

OAKLAND, CALIFORNIA

MW-1

Well completed to 35.0 feet in depth with 2-inch Class 160 PVC casing, flush-threaded joints. Screen (.020-inch slot) set from 7.0 to 35.0 feet. 6 X 12 Monterey sand placed from 5.5 to 35.0 feet, bentonite pellets placed from 5.0 to 5.5 feet, and concrete seal placed from 0 to 5.0 feet.

DRILL RIG	Hollow Stem	SURFACE ELEVATION	---	LOGGED BY	JCW
DEPTH TO GROUNDWATER	As Noted	BORING DIAMETER	8"	DATE DRILLED	7/30/86

DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
ASPHALT AND BASE ROCK									
SILTY CLAY with rock fragments; dry	tan	stiff	CL						
Large rock fragments				5					
Damp; no product odor	motld tan to gray to brown								
Decreasing rock fragments				10					
Slightly sandy No product odor			CL-SC	15					
							▽		
CLAYEY GRAVEL	light brown	dense	GC						
				20					

EXPLORATORY BORING LOG

MOBIL OIL CORPORATION
HIGH STREET, OAKLAND

PROJECT NO.	DATE	BORING NO.
H182-21	8/86	MW-2

DRILL RIG Hollow Stem	SURFACE ELEVATION ----	LOGGED BY JCW
DEPTH TO GROUNDWATER As Noted	BORING DIAMETER 8"	DATE DRILLED 7/30/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
CLAYEY GRAVEL (CONTD)	light brown to tan	dense	GC						
Large gravel		dense to very dense		25					
TOTAL DEPTH = 30.0 feet				30					

EXPLORATORY BORING LOG

MOBIL OIL CORPORATION
HIGH STREET, OAKLAND

PROJECT NO.	DATE	BORING NO.
H182-21	8/86	MW-2

MOBIL OIL CORPORATION

OAKLAND, CALIFORNIA

MW-2

Well completed to 30.0 feet in depth with 2-inch Class 160 PVC casing, flush-threaded joints. Screen (.020-inch slot) set from 7.0 to 30.0 feet. 6 X 12 Monterey sand placed from 5.0 to 30.0 feet, bentonite pellets placed from 4.5 to 5.0 feet, and concrete seal placed from 0 to 4.5 feet.

DRILL RIG	Hollow Stem	SURFACE ELEVATION	----	LOGGED BY	JCW
DEPTH TO GROUNDWATER	As Noted	BORING DIAMETER	8"	DATE DRILLED	7/30/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
ASPHALT AND BASE ROCK									
SILTY CLAY with rock fragments; dry	tan to brown	stiff	CL-						
Large rock fragments			CL-GC	5					
Decreasing rock fragments									
SILTY CLAY, damp No product odor	tan to gray	stiff	CL	10					
		very stiff		15					
Wet; no product odor				20			▽		

EXPLORATORY BORING LOG

MOBIL OIL CORPORATION
HIGH STREET, OAKLAND

PROJECT NO.	DATE	BORING NO.
H182-21	8/86	MW-3

DRILL RIG Hollow Stem	SURFACE ELEVATION -----	LOGGED BY JCW
DEPTH TO GROUNDWATER As Noted	BORING DIAMETER 8"	DATE DRILLED 7/30/86

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	UNCONFINED COMPRESSIVE STRENGTH (KSF)	WATER CONTENT (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT.)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
SILTY CLAY (CONTD)	tan to gray	very stiff	CL						
			GC						
CLAYEY GRAVEL; wet	light brown								
				25					
SILTY CLAY	light brown	very stiff to hard	CL						
CLAYEY GRAVEL	light brown	dense to very dense	GC						
				30					
TOTAL DEPTH = 30.0 feet									

EXPLORATORY BORING LOG

MOBIL OIL CORPORATION
HIGH STREET, OAKLAND

PROJECT NO.	DATE	BORING NO.
H182-21	8/86	MW-3

MOBIL OIL CORPORATION

OAKLAND, CALIFORNIA

MW-3

Well completed to 30.0 feet in depth with 2-inch Class 160 PVC casing, flush-threaded joints. Screen (.020-inch slot) set from 7.0 to 30.0 feet. 6 X 12 Monterey sand placed from 5.0 to 30.0 feet, bentonite pellets placed from 4.5 to 5.0 feet, and concrete seal placed from 0 to 4.5 feet.

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

7/30/86
Date Sampled: ~~8/4/86~~
Date Received: 8/4/86
Date Reported: 8/26/86

Sample Number	Sample Description	Detection Limit ppm	Total Hydrocarbons ppm
	Mobil-3315 High St. in Oakland, soil		
6080106	MW-1, 15½-16 feet	1	< 1
6080107	MW-2, 15½-16 feet	1	< 1
6080108	MW-3, 15½-16 feet	1	< 1

NOTE: Analysis was performed using EPA methods 5020 and 8015.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sls

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2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 08/18/86
Date Received: 08/18/86
Date Reported: 09/04/86

Sample Number
6081108

Sample Description
Mobil at High St. in
in Oakland, MW #1
Water Sample

ANALYSIS

	Detection Limit	
Total Hydrocarbons, ppm	0.05	< 0.05
Benzene, ppm	0.001	< 0.001
Toluene, ppm	0.001	< 0.001
Xylenes, ppm	0.001	< 0.001

NOTE: Analysis was performed using EPA methods 5020 and 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sls

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Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 08/18/86
Date Received: 08/18/86
Date Reported: 09/04/86

Sample Number
6081109

Sample Description
Mobil at High St. in
in Oakland, MW #2
Water Sample

ANALYSIS

	Detection Limit	
Total Hydrocarbons, ppm	0.05	< 0.05
Benzene, ppm	0.001	< 0.001
Toluene, ppm	0.001	< 0.001
Xylenes, ppm	0.001	< 0.001

NOTE: Analysis was performed using EPA methods 5020 and 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sls

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 08/18/86
Date Received: 08/18/86
Date Reported: 09/04/86

Sample Number
6081110

Sample Description
Mobil at High St. in
in Oakland, MW #3
Water Sample

ANALYSIS

	Detection Limit	
Total Hydrocarbons, ppm	0.05	< 0.05
Benzene, ppm	0.001	< 0.001
Toluene, ppm	0.001	< 0.001
Xylenes, ppm	0.001	< 0.001

NOTE: Analysis was performed using EPA methods 5020 and 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sls

ZONE 7 OF ALAMEDA COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE, PLEASANTON, CA 94566 (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

(1) LOCATION OF PROJECT 3315 High Street
Oakland, California

(2) CLIENT Mobil Oil Corp.
Name c/o Kapraelian Engineering
Address 535 Main St.-#308 Phone 415 228-1882
City Martinez, CA Zip 94553

(3) APPLICANT
Name HMMP, INC *
/Suite 114
Address 1450 Koll Cir. Phone 408 286-7868
City San Jose, CA Zip 95112

(4) DESCRIPTION OF PROJECT
Water Well Construction X Geotechnical ___
Cathodic Protection ___ Well Destruction ___

(5) PROPOSED WATER WELL USE
Domestic ___ Industrial ___ Irrigation ___
Municipal ___ Monitoring X Other ___

(6) PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

Owners No. MW-1

WELL PROJECTS
Drill Hole Diameter 8 in. Depth 30 ft.
Casing Diameter 2 in. Number 160 PVC[a]
Surface Seal Depth 5 ft.
Driller's License No. C57; 484288

GEOTECHNICAL PROJECTS
Number ___
Diameter ___ in. Maximum Depth ___ ft.

(7) ESTIMATED STARTING DATE 7/30/86
ESTIMATED COMPLETION DATE 8/1/86

(8) I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] Date 7/25/86

FOR OFFICE USE

PERMIT NUMBER 86210
LOCATION NUMBER ___

Approved Craig A. Mayfield Date 29 Jul 86
Craig A. Mayfield

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Notify this office (443-9300) at least one day ~~prior to starting work on permitted work and~~ before placing well seals.
3. Submit to Zone 7 within 30 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or bore hole logs and location sketch for geotechnical projects. Permitted work is completed when the last surface seal is placed or the last boring is completed.
4. Permit is void if project not begun within 90 days of approval date.

(B) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie, or equivalent.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic, irrigation, and monitoring wells unless a lesser depth is specially approved.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie, or equivalent.

E. WELL DESTRUCTION. See attached.

* HMMP Representative: Mr. Jeremy Wire
a Three wells

11985